

Adult Immunizations

Massachusetts Recommendations and Requirements for 2007-2008

Recommended Immunizations For Health Care Personnel (HCP)	
Vaccine	Recommendations in Brief
Hepatitis B	Give 3-dose series (dose #1 now, #2 in 1 month, #3 approximately 5 months after #2). Give IM. Obtain anti-HBs serologic testing 1–2 months after dose #3.
Influenza	Give 1 dose of TIV or LAIV annually. Give TIV intramuscularly or LAIV intranasally.
MMR (Measles, mumps, rubella)	For HCP born in 1957 or later without serologic evidence of immunity or prior vaccination, give 2 doses of MMR, 4 weeks apart. For HCP born prior to 1957, see below. Give SC.
Varicella	For HCP who have no serologic proof of immunity, prior vaccination, or history of varicella disease, give 2 doses of varicella vaccine, 4 weeks apart. Give SC.
Td/Tdap (Tetanus, diphtheria, pertussis)	Give all HCP a Td booster dose every 10 years, following the completion of the primary 3-dose series. Give a 1-time dose of Tdap to all HCP < age 65 years with direct patient contact. Give IM.
Meningococcal	Give 1 dose to microbiologists who are routinely exposed to isolates of <i>N. meningitidis</i> .
Pneumococcal	1 dose at any age if at risk for pneumococcal disease; 1 dose for everyone ≥ 65 years of age. Give IM or SC.

Health care personnel (HCP) include full- and part-time staff with or without direct patient contact, including physicians, students and volunteers who work in inpatient, outpatient and home-care settings.

Hepatitis B: HCP who may be exposed to blood or body fluids should receive 3 doses hepatitis B vaccine at 0, 1, and 6 months. Test for hepatitis B surface antibody (anti-HBs) 1–2 months after 3rd dose to document immunity.

- If anti-HBs is ≥ 10 mIU/mL (positive), the patient is immune. No further serologic testing or vaccination is recommended.
- If anti-HBs is < 10 mIU/mL (negative), the patient is susceptible; revaccinate with a 3-dose series. Retest anti-HBs 1–2 months after 3rd dose. If anti-HBs is positive, the patient is immune and no further testing or vaccination is recommended. If anti-HBs is negative following 6 doses of vaccine, the patient is a non-responder and is susceptible to HBV infection.

Counsel non-responders regarding prevention of HBV infection and the need to obtain HBIG prophylaxis for any known or probable parenteral exposure to hepatitis B surface antigen (HBsAg)-positive blood. It is possible that non-responders are HBsAg positive. Consider testing. HCP found to be HBsAg positive should be counseled and medically evaluated. Note: Anti-HBs testing is not recommended routinely for previously vaccinated HCP who were not tested after their original vaccine series. Test these HCP for anti-HBs when they have an exposure to blood or body fluids. If found to be anti-HBs negative, treat as susceptible. (See Table 3 in *Updated U.S. Public Health Service Guidelines for the Management of Occupational Exposures to HBV, HCV, and HIV and Recommendations for Postexposure Prophylaxis*, MMWR 2001;50: R-11.) <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5011a1.htm>

Influenza: All HCP should receive annual influenza vaccine. Give trivalent (inactivated) influenza vaccine (TIV) to any HCP. Give live, attenuated influenza vaccine (LAIV) to non-pregnant healthy HCP ≤ 49 years of age. TIV is preferred over LAIV for HCP in close contact with severely immunosuppressed persons when patients require a protective environment.

Measles, Mumps, Rubella (MMR): All HCP should be immune to measles, mumps, and rubella.

- HCP born in 1957 or later are considered immune if they have documentation of (a) laboratory evidence of measles, mumps, and rubella immunity (HCP who have an “indeterminate” or “equivocal” level of immunity should be considered nonimmune); or (b) 2 doses of live measles, mumps and rubella vaccines, ≥ 28 days apart, on or after the 1st birthday.
- HCP born before 1957 who are unvaccinated or do not have laboratory evidence of immunity should receive one dose of MMR (2 doses during a mumps outbreak).

Varicella: All HCP should be immune to varicella. Documentation of immunity includes documentation of 2 doses given ≥ 1 month apart; laboratory evidence of immunity; laboratory confirmation of disease; healthcare provider diagnosis of varicella or herpes zoster; or verification of history of varicella disease or of herpes zoster by a healthcare provider (including school or occupational health nurse). (For more detailed evidence of immunity to varicella, particularly how to assess persons presenting with mild or atypical disease, see CDC. Prevention of Varicella: recommendations of the ACIP. MMWR 2007;56(RR04):16.) <http://www.cdc.gov/mmwr/pdf/rr/rr5604.pdf>

Tetanus/Diphtheria/Pertussis (Td/Tdap): All adults who have completed a primary series of a tetanus/diphtheria-containing product (DTP, DTaP, DT, Td) should receive Td boosters every 10 years. HCP younger than age 65 years with direct patient contact should be given a 1-time dose of Tdap, with priority given to those having contact with infants younger than age 12 months. An interval as short as 2 years from the last dose of Td is recommended for the Tdap dose. However, shorter intervals may be used.

Meningococcal: Vaccination is recommended for microbiologists who are routinely exposed to *N. meningitidis* isolates. MCV4 is preferred for persons ages 11–55 years; give IM. If MCV4 is unavailable, MPSV is an acceptable alternative for HCP ages 11–55 years. MPSV is recommended for HCP > age 55. Give SC.

Recommended Immunizations For Teachers and Day Care Staff¹

Vaccine	Persons Born Before 1957	Persons Born In or After 1957
MMR ² (Measles, Mumps, Rubella)	1 dose recommended for women of childbearing age; and for all adults <u>not</u> born in the U.S.	2 doses
Varicella ³	2 doses	
Hepatitis B ⁴	3 doses	
Td/Tdap ⁵ (Tetanus, diphtheria, pertussis)	1 Td booster every 10 years. Substitute Tdap for 1 dose of Td.	
Annual Influenza	Indicated for caregivers of children birth – 59 months of age; anyone at risk for complications from influenza; pregnant women; and everyone ≥ 50 y/o.	

¹ All full- and part-time teachers, student teachers and staff.

² Proof of immunity to measles, mumps **and** rubella is required for staff of licensed group and family day care centers (see table below). MMR vaccine is recommended for teachers and staff in other school settings.

³ Varicella vaccine is recommended for those who do not have documentation of age-appropriate immunization, a reliable history of varicella disease (physician diagnosis or personal recall) or serologic evidence of immunity.

⁴ Federal OSHA regulations require some employers to offer hepatitis B vaccine to childcare staff whose responsibilities include first aid. Serologic evidence of immunity may be substituted for immunization.

⁵ All adults should receive a single dose of Tdap, especially those who have close contact with infants <12 months of age (e.g., childcare providers). An interval of ≥ 2 years since the last dose of tetanus toxoid-containing vaccine is suggested; a shorter interval can be used.

Massachusetts Immunization Requirements for Selected Occupational Groups^{1,2}

Group and Regulation	Requirement	Vaccination/Proof of Immunity
Health care personnel assigned to maternal-newborn areas (105 CMR 130.626)	Immunity to measles and rubella	At least one dose of vaccine on or after 12 months of age; serologic evidence of immunity to rubella and measles; or, for measles only, physician-diagnosed disease.
Employees of long-term care facilities (LTCF) [105 CMR 150.002(D)(8)]	Annual influenza vaccination	LTCFs shall provide employees with information about the risks and benefits of influenza vaccine, and arrange for annual influenza vaccination at no cost to the employee. Employees who decline vaccine shall sign a declination.
Staff of licensed group and family day cares and programs for school age children (102 CMR 7.08 and 8.04)	Immunity to measles, mumps and rubella	Those born in or after 1957, regardless of country of birth: 2 doses of MMR (or 2 doses of measles-containing vaccine) and 1 dose each of mumps and rubella vaccine at ≥ 12 months of age; or serologic evidence of immunity to measles, mumps <u>and</u> rubella. Those born before 1957 in the U.S. are considered immune. Those born before 1957 in countries other than the U.S.: 1 dose of MMR; or serologic evidence of immunity to measles, mumps <u>and</u> rubella. Physician-diagnosed disease is <u>not</u> considered acceptable proof of immunity for day care staff.

¹For Massachusetts Immunization Requirements for College, see www.mass.gov/dph/cdc/epii/imm/guidelines_sched/chiimm.pdf.

²The Federal Occupational Safety and Health Administration (OSHA) regulations may include other immunization requirements for workers in certain occupational settings.

Information on Immunizations for Travelers

Call the CDC Travel Hotline at 877-394-8747 or visit <http://wwwn.cdc.gov/travel/default.aspx>,
or visit the World Health Organization's International Travel and Health website at <http://www.who.int/ith/>.

These guidelines are based on the recommendations of the Advisory Committee on Immunization Practices (ACIP). For specific ACIP recommendations refer to the full statements at <http://www.cdc.gov/vaccines/recs/acip/default.htm>. You can also visit the MDPH website at www.mass.gov/dph or call MDPH toll-free at 1-888-658-2850.